

Real-time Simulation

irtual worlds of stunning realism is the pledge from products created by real-time 3D software manufacturer Coryphaeus Software, Inc. of Los Gatos, California.

Coryphaeus Software was founded in 1989 by former NASA electronics engineer, Steve Lakowske. His 10-years in the space arena included work on a vertical motion simulator at Ames Research Center, and other tasks associated with human and machine interaction. One of his assignments at Ames was design, fabrication, and testing of audio, communications, and aural cue systems in a multimillion dollar aviation human factors research facility.

As president of the privately-owned Coryphaeus, Lakowske turned his prior experiences into a successful software firm producing high-end, real-time simulation products for virtual reality applications. Annual sales are now over \$6 million.

"My ten years at NASA allowed me to learn much of what I'm still applying today in this business," says Lakowske. "The technology we were developing in the various projects is something that was rarely done in the commercial sector, so there was a considerable amount of technology transfer, at least in terms of the ideas and principles. And I hope that sort of tech transfer continues," he adds.

Designer's WorkbenchTM was the flagship product of Coryphaeus, a modeling and simulation tool for the development of both static and dynamic 3D databases. Other products soon followed, such as ActivationTM, Easy T^{TM} and EasySceneTM.

Activation was specifically designed for game developers to play and test next-generation 3D games before they commit it to a target platform. With Activation, game publishers can shorten development time and prove the "playability" of the title, thereby maximizing their chances of introducing a smash hit.

EasyT lets users create massive, realistic representations of Earth terrains that can be viewed and traversed in real time. Importing satellite data into EasyT is easily done, to accurately represent elevation data, as well as carry images of Earth. This software allows users to zoom in on models, perusing data at a high level of detail.

EasyScene software controls the actions among interactive objects within a virtual world. This tool creates and plays back behaviors between the virtual objects and the virtual environment.

All Coryphaeus products are designed to promote high productivity for both engineering and



Designed by a former NASA engineer, Coryphaeus software tools provide the ability to create real-time visual simulations in 3D to train jet aircraft pilots.



non-programming users. The result is easy-to-use tools to establish real-time 3D simulations for interactive instrumentation, out-the-window scenes, virtual reality and game authoring.

Customer applications include real-time flight and driving simulation and training systems, terrain modeling and test range simulations, pilot's view re-creations from flight data recorders, and real-time walkthroughs of facilities.

Coryphaeus products are used on Silicon Graphics workstations and supercomputers to simulate real-world performance in synthetic environments. The company is also working to develop its software to operate on other platforms.

A representative sampling of commercial customers for the company's software tools includes aerospace, aviation, architectural and engineering firms, game developers, and the entertainment industry. Boeing, Hughes Training, Lockheed Martin, ITT Automotive, as well as NASA and branches of the U.S. armed forces, are among the list of clients.

Software tools developed by Coryphaeus yield real-time 3D visual simulations ideal for plotting the twists and turns of a highway for planning purposes.



Activation, a real-time graphics software by Coryphaeus, allows a user to incorporate models, animation sequences, and character animation into a game being prototyped.

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